

General Line of Sight Stabilization System

Abstract

A line of sight stabilization system using two mirrors pivotally mounted to a fixed platform that can be used with existing imaging systems to provide pitch, roll, and yaw compensation while maintaining image orientation. By deflecting only the photons, the inventive system avoids the need to stabilize the entire imaging sensor and optics system. The only mass to move is that of the two imaging system mirrors. By monitoring attitude changes via an inertial measurement system, proceeding platform positions can be estimated for subsequent image acquisitions, and efficient mirror positioning can provide optimal image orientation and stabilization. This approach requires small motors with low torque, providing a less expensive, lightweight, and small image orientation and stabilization system.